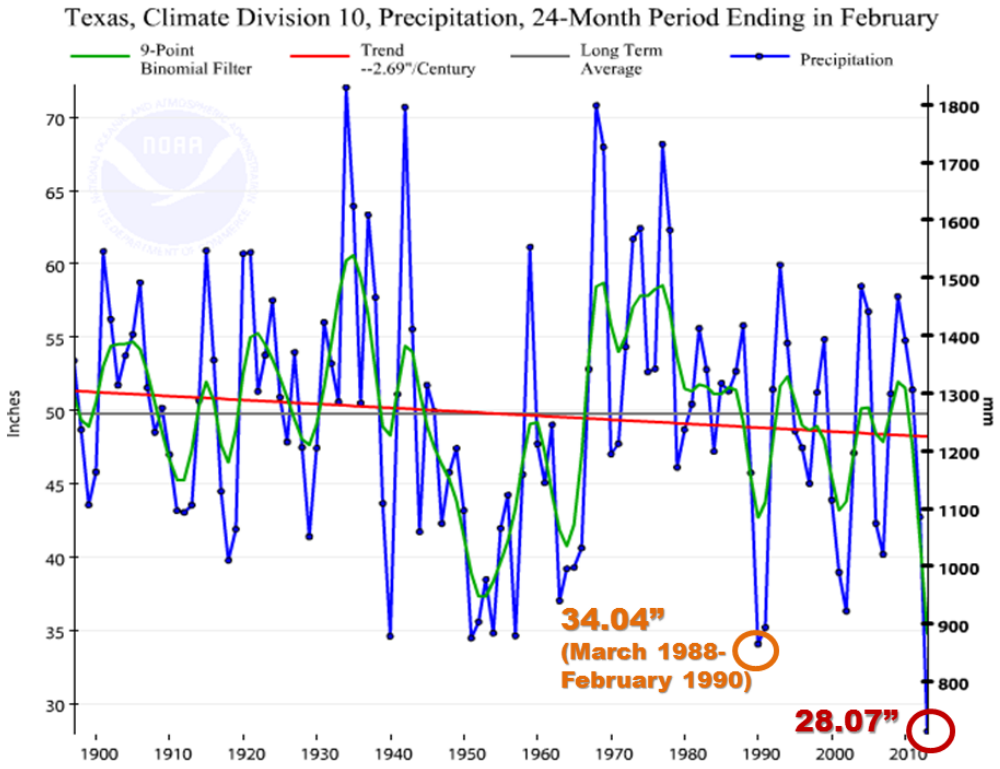
*Mid March 2013 Drought/Water Crisis Update*



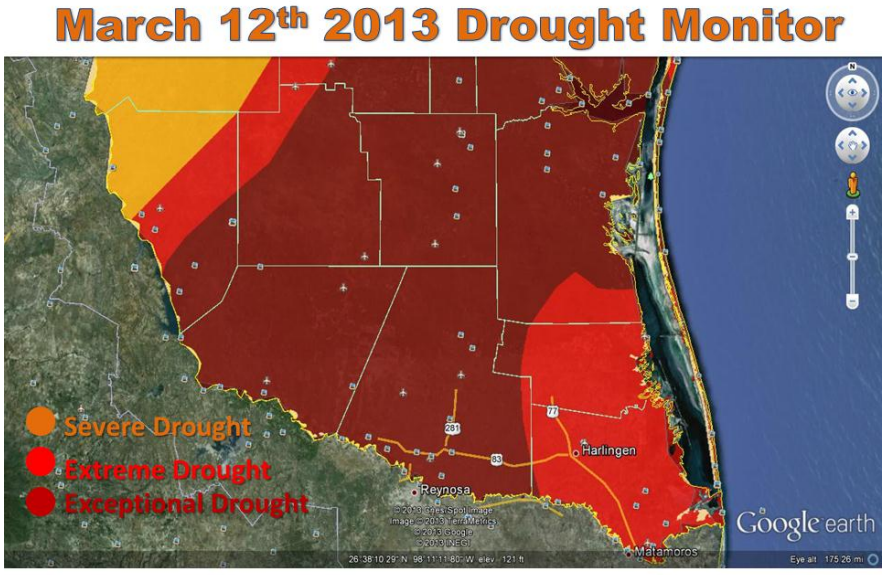

*Above:* 24-month running totals of rainfall across Texas Climate Division 10 (Lower/Mid Rio Grande Valley), ending in February . The March 2011-February 2013 period was the driest by far; nearly **six inches** below the prior record in 1990, and other records through the 1950s.

# Water Crisis Deepens as Drought Intensifies

## Valley Cities and Towns Planning to Buy Water to Keep Taps Running

**Overview**

Warm/dry days and cool nights continued across the Rio Grande Valley and Deep South Texas through the first two weeks of March. Isolated showers on the 8th provided minimal rainfall across coastal sections of Cameron County. Along with the warm, dry conditions, breezy periods and low humidy allowed higher evaporation rates. Soil moisture continues to be very dry to extremely dry over the region. Exceptional (D4) Drought covered all but the corners of the region, where Extreme (D3) conditions held on. A sliver of Severe (D2) conditions remained in northwest Zapata County based on prior rainfall in late September, November, and late February. The drought continued to negatively impact agriculture, including pastures and rangeland, ecology (wildlife), and hydrology (reservoir capacity).



## Impacts

### *Water Crisis*

This month notices have gone out to cities in the Lower Rio Grande Valley who receive water through conveyance of municipal water with their irrigation water, warning them they will no longer have water to distribute – i.e., taps will run dry if the status quo is maintained. The shortage means these cities will have to purchase additional water, known as "push" water, replenish their daily consumption at their treatment plants. The means of distribution are most often open, unlined, earthen canals. Unfortunately, there is little or no available water to purchase beyond irrigation conveyance, which is extremely low this spring. The following cities are affected:

- Cameron County Irrigation District No. 2 (San Benito) servicing the cities of San Benito, Rio Hondo and Arroyo City. None of these users have a secondary source of water.
- Hidalgo and Cameron Counties Irrigation District No. 9 (Mercedes) servicing the cities of Weslaco, Mercedes, North Alamo, Edcouch, Elsa and La Villa. Of the named cities, only North Alamo has a secondary source of water (Donna Irrigation District).
- Delta Lake servicing Raymondville, Lyford and North Alamo. Only North Alamo has a secondary source of water (Donna Irrigation District).
- Hidalgo Irrigation District No. 16 servicing La Joya Water Supply and the City of La Joya. No secondary source of water.
- Donna Irrigation District servicing the City of Donna, which has no secondary source of water and a portion of the Cities serviced by North Alamo, which has a secondary source of water through Hidalgo and Cameron Counties Irrigation District No. 9.
- Hidalgo County Irrigation District No. 3 services the City of McAllen. United Irrigation District and Hidalgo County Irrigation District No. 2 can supply the City of McAllen as a secondary source.
- Valley Acres Irrigation District services the Rio Grande Valley Sugar Growers Association with raw water to run the sugar mill operations. At this time there is no other Irrigation District that can service the sugar mill; however, the mill does have the ability to divert waters from the Arroyo Colorado / North Floodway.
- La Feria Irrigation District services the City of La Feria and City of Santa Rosa and these do not have a secondary source.
- Valley Municipal Utility District services the Rancho Viejo community and may receive secondary water from Olmito WSC or Southmost WSC.

In addition, there are five public water suppliers in Starr and three in Zapata County maintaining water restrictions, to go with a total of nine in Hidalgo, three in Cameron, and 2 in Willacy County. One jurisdiction in Starr and another in Zapata County continue with severe restrictions. According to the Texas Commission on Environmental Quality, several water supply entities are maintaining voluntary water conservation programs. Irrigation districts listed above will likely run out of water by April or May and will not be able to supply municipal water on their own. This is quite serious. Several cities in the Valley have implemented water restrictions. **Residents are urged to conserve water**.

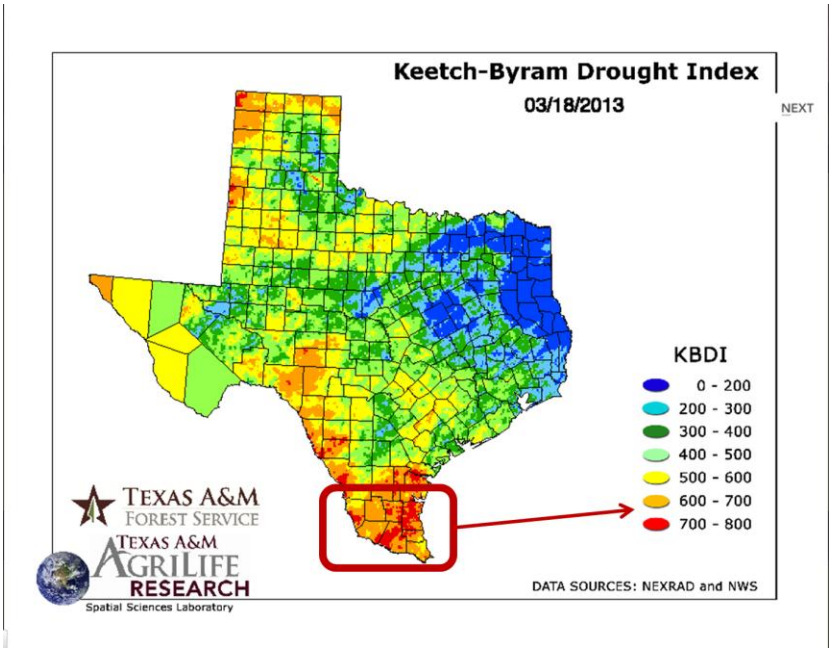
### *Agricultural*

According to the U.S. Department of Agriculture and Texas Agrilife Extension Service agents, soil moisture levels ranged from 60 to 100 percent "very short" over south Texas. High winds, warm temperatures and very low humidity levels continued to dry topsoil. The drought continued to stress native grasses throughout the entire region. Supplement feeding was being steadily provided in an effort to keep body condition scores fair.

In the Valley, cotton and grain sorghum producers further delayed planting due to the Extreme to Exceptional drought. Growers continued to irrigate where they had the capacity to do so. Agrilife Extension Service states water crisis not just for farmers but also for entire cities this year. Most of the Irrigation Districts have informed farmers that they will have only one, and at most two, irrigations this spring.

***Fire Danger***

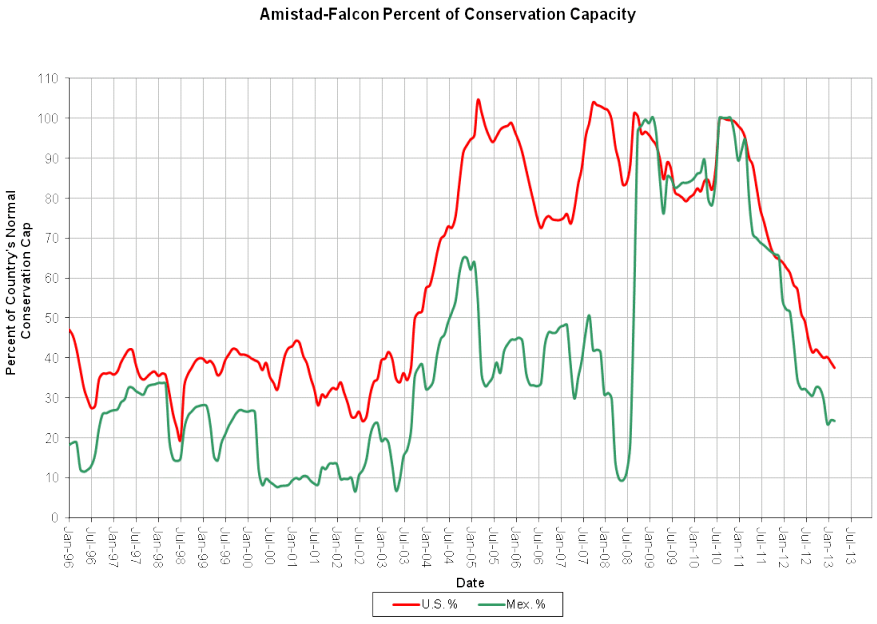
According to the State of Texas Forest service, wildfire danger and spread is currently considered high to extreme over the Rio Grande Valley and Ranchlands due to the current drought conditions, prolonged dry weather and periods of breezy to windy weather. Though fine fuels (grasses) are limited, abundant larger/longer time lag fuels (scrub, brush, trees) as well as dead brush remain a critical concern. Wildfire danger and spread continues to be a major concern for residents of the Valley and Deep South Texas. The latest Keetch Byram Drought Indices (KBDI, right) show widespread areas above 600, and increasing pockets between 700 and 800 on a scale that goes no higher than 800. Burn bans are currently in effect for all but Cameron and Hidalgo County; however, each county has, and will, institute bans on a temporary basis through the drought period. Residents of Cameron and Hidalgo County are urged to contact local officials for latest information concerning burn bans. We remind everyone that fire danger can change quickly from one day to another, as winds and relative humidity values vary.



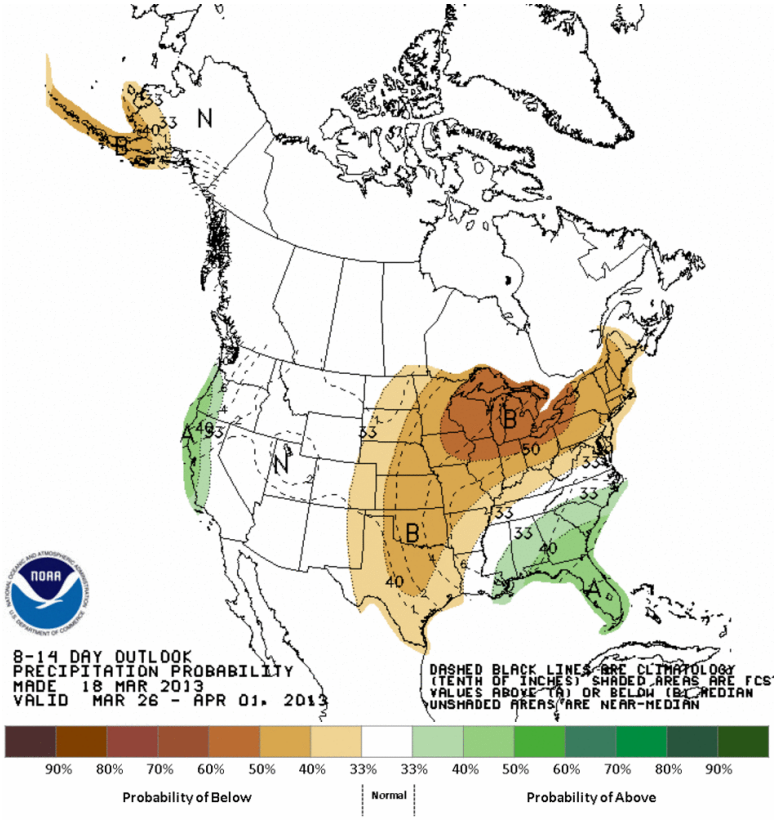

## Outlook

***Hydrologic***

Falcon and Amistad International Reservoir provide much of the water for the Valley. The lake level at each was roughly 31 percent (U.S. and Mexico combined share) on March 18th Amistad reservoir is currently at 31 percent of normal conservation level. However, the U.S. storage at Falcon Dam has dipped more than four feet since February, as flows have been reduced from Amistad and inflow from the Rio Salado has been limited. Conservation levels across the border have been stark, with most reservoirs below 50 percent conservation. Only Luis L. Leon reservoir (Chihuahua) has maintained a level above 100 percent this spring. storage level at Falcon Reservoir is holding at around 32 percent of normal conservation. Amistad-Falcon combined conservation capacity was near 38 percent (left); reservoir levels were at or near record lows for March and were heading for levels not seen since the turn of the century.



***Rain and Temperature Projections through the End of March***




March is one of the driest months of the year for the Rio Grande Valley, and the final two weeks offer little hope for relief. Concluding rainfall totals are expected to be very light across the Rio Grande Valley (right); any rainfall will provide only spotty and very short term relief – on the order of a day. No drought relief is expected; in fact, conditions may worsen further across the corners of the region before April 1st.

Significant cold air intrusion is finished for the Rio Grande Valley in 2013. In fact, 2013 was the first year in recent memory – at least back to 2007 – that no widespread freezes occurred across any location in Deep South Texas, particularly the ranchlands/brush country/Rio Grande Plains region which almost always have at least one frosty morning each winter.

Through March 17th, average temperatures across the Valley were running about a degree ***below*** average. The week of March 17th through 23rd is expected to be well above normal, with daytime highs in the 80s to 90s and nighttime lows mainly in the 60s to lower 70s. This trend will push the March average in 2013 above the 30 year benchmark (1981-2010). By month's end, Brownsville will have completed 26 consecutive months above normal, Harlingen/cooperative 15 months above average, and McAllen a whopping 36 of 37 months above average since March, 2010.